wherein the at least one cell is a cell that is formed from a polycarbonate substrate with two opposing walls comprising permeable polycarbonate film.

2. (amended) The reactor plate of claim 1, wherein the permeable polycarbonate film is characterized by a diffusion coefficient of about 5 X 10^{-10} to about 5 X 10^{-7} cc(STP)-mm/cm^2 –sec-cmHg.

3. (amended) The reactor plate of claim 1, wherein the permeable polycarbonate film is characterized by a diffusion coefficient of about 1 X 10^{-9} to about 1 X 10^{-7} cc(STP)-mm/cm^2 –sec-cmHg.

4. (amended) The reactor plate of claim 1, wherein the permeable polycarbonate film is characterized by a diffusion coefficient of about and preferably about 2 X 10^{-8} to about 2 X 10^{-6} cc(STP)-mm/cm^2 –sec-cmHg.

5. (amended) The reactor plate of claim 1, wherein the permeable polycarbonate film is about .0002 to about .05 mm thick.

6. (amended) The reactor plate of claim 1, wherein the permeable polycarbonate film is about .005 to about .04 mm thick.

7. (amended) The reactor plate of claim 1, wherein the permeable polycarbonate film is , desirably about .01 to about .025 mm thick.

10. (amended) The reactor plate of claim 1, wherein the permeable polycarbonate film is a monofilm, coextrusion, composite or laminate.

11. (amended) The reactor plate of claim 1, wherein the permeable polycarbonate film selectively admits transport of a reactant and prohibits transport of a reaction product.

12. (amended) The reactor plate of claim 1, wherein the permeable polycarbonate film selectively admits transport of oxygen and carbon monoxide and prohibits transport of a diaryl carbonate.